



PrintED/SkillsUSA Screen Printing Technology Competencies

The PrintED/SkillsUSA Screen Printing Technology competencies encompass the knowledge and skill set a student should master to exhibit proficiency in screen printing technology. The PrintED/SkillsUSA Screen Printing Technology Skill Connect Assessment test questions align with the PrintED/SkillsUSA Screen Printing Technology competencies.

Note: To fully prepare for the Screen Printing Technology SkillsUSA Championships contest, refer to the current year's *SkillsUSA Championships Technical Standards CD-ROM*, or purchase and download the relevant *Contest Singles*, which are both available in the Educational Resources Catalog at: <http://www.skillsusa.org/store/>.

A. Frames and Screen Preparation

1. Choose appropriate frame size for the job.
2. Choose appropriate mesh thread count for the job.
3. Choose appropriate mesh type for the job.
4. Attach fabric on fixed and/or retensionable systems.
5. Make adjustments to correct for fabric elongation or extension.
6. Measure fabric tension with a tension meter.
7. Abrade and degrease the screen.
8. Dry the screen using appropriate screen drying systems.
9. Choose appropriate type of emulsion for the job.
10. Apply emulsion using appropriate methods.

B. Stencil Systems

1. Prepare a stencil design.
2. Assemble digital layout components and consider color trapping if necessary.
3. Develop required image elements including text, graphics, and quality control targets.
4. Generate a composite proof for a job.
5. Generate appropriate color separation proofs for a job.
6. Produce full color proof to match job ticket specs.
7. Generate film positive(s).
8. Align positives and expose stencil.
9. Wash out image area of stencil.
10. Evaluate stencil quality.

C. Print Production

1. Load screen onto printing machine.
2. Select appropriate squeegee for the job.
3. Choose appropriate type of ink for the job.
4. Confirm ink color specifications with job specs.
5. Prepare ink and apply to screen.
6. Align screen(s) for proper registration.
7. Set appropriate off contact to control image quality.
8. Load and align substrate on printing machine.
9. Apply correct squeegee pressure to bring screen into contact with substrate.
10. Operate printing machine and verify printing quality.
11. Complete production run according to job specs.
12. Check color register and make adjustments as needed.
13. Dry or cure printed objects using appropriate equipment.
14. Organize or package finished product according to job specs.

D. Clean-up Process

1. Remove and clean squeegee(s).
2. Dry and store squeegee(s).
3. Remove ink; store or dispose of ink as specified by MSDS.
4. Clean additional auxiliary equipment as needed.
5. Remove frame from press and take to screen washout area.
6. Use personal protection safety equipment.
7. Select/use appropriate chemistry and washout equipment to remove stencil.
8. Inspect screens to ensure they are reusable.
9. Complete any additional cleaning procedures to ensure usability.
10. Properly store screen.

SkillsUSA is of the understanding that students who take the PrintED/SkillsUSA Screen Printing Technology Skill Connect Assessment have been enrolled in a screen printing training program with the following competencies embedded within the curriculum.

Identified Academic Skills

None identified.

Connections to National Standards

State-level academic curriculum specialists identified the following connections to national academic standards.

Math Standards

- Numbers and operations
- Algebra
- Geometry
- Measurement
- Data analysis and probability
- Problem solving
- Communication
- Connections
- Representation

Source: NCTM Principles and Standards for School Mathematics. To view high school standards, visit: standards.nctm.org/document/chapter7/index.htm. Select "Standards" from menu.

Science Standards

None identified.

Source: McREL compendium of national science standards. To view and search the compendium, visit: www.mcrel.org/standards-benchmarks/.

Language Arts Standards

- Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
- Students apply a wide range of strategies to comprehend, interpret, evaluate and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge

of word meaning and of other texts, their word identification strategies and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, and graphics).

- Students adjust their use of spoken, written and visual language (e.g., conventions, style, and vocabulary) to communicate effectively with a variety of audiences and for different purposes.
- Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language and genre to create, critique and discuss print and nonprint texts.
- Students conduct research on issues and interests by generating ideas and questions and by posing problems. They gather, evaluate and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, and people) to communicate their discoveries in ways that suit their purpose and audience.
- Students use a variety of technological and information resources (e.g., libraries, databases, computer networks and video) to gather and synthesize information and to create and communicate knowledge.
- Students participate as knowledgeable, reflective, creative and critical members of a variety of literacy communities.
- Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information).

Source: IRA/NCTE Standards for the English Language Arts. To view the standards, visit:
www.readwritethink.org/standards/index.html.